

# Work Order ID 110306

December-17-13 9:20:34 AM

**\*110306\***

*Ship to Day*

Page 1

Item ID: D212-722-013

Accept

**\*N900040100\***

Setup Start

**\*NS1\***

Revision ID:

Stop

**\*NS2\***

Item Name: Fastener Brace

Start Date: 12/17/13 Start Qty: 2.00

**\*2\***

Cust Item ID:

Required Date: 12/17/13 Req'd Qty: 2.00

**\*2\***

Customer:

Reference:

Approvals: Process Plan: MLJ Date: 13-12-18

Tooling:

Date:

Run Start

**\*NR1\***

QC: \_\_\_\_\_

Date:

SPC (Y/N): \_\_\_\_\_

Date:

Stop

**\*NR2\***

| Sequence ID/<br>Work Center ID | Operation<br>Description | Set Up/<br>Run Hours | Tool ID | Tool # | Plan<br>Code | Accept<br>Qty | Reject<br>Qty | Reject<br>Number | Insp.<br>Stamp |
|--------------------------------|--------------------------|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------|
|--------------------------------|--------------------------|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------|

Draw Nbr

Revision Nbr

DSI 9476

A

*MLJ 14-02-05*

100

0.00

**\*100\***

DC

Document Control

Memo

Photocopy DSI 9476 and labels per PPP D212-722-013 CHG001

0.00

**DAS  
31  
9-88**

*14-02-05*

*(2x)*

110

Pick Kit

0.00

**\*110\***

Packaging

Packaging

Memo

0.00

**DAS  
28  
9-88**

*2x*

*14-01-5*

120

QC4- 100% Inspect kits for completeness

0.00

**\*120\***

QC

Quality Control

Memo

0.00

**DAS  
31  
9-88**

*14-02-05*

*2x*

DQA: \_\_\_\_\_ Date: \_\_\_\_\_



## WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Work Order update only ☐

|  |  |   |                                      |                                    |                                    |                                      |                                    |                                    |  |                                  |  |                                    |  |                                |                                    |                                    |                                   |  |
|--|--|---|--------------------------------------|------------------------------------|------------------------------------|--------------------------------------|------------------------------------|------------------------------------|--|----------------------------------|--|------------------------------------|--|--------------------------------|------------------------------------|------------------------------------|-----------------------------------|--|
| Work Order: _____<br><br>Part No. _____<br><br>NCR No. _____ | <b>DISPOSITION</b><br><br>Rework <input type="checkbox"/><br>Scrap <input type="checkbox"/><br>Use-as-is <input type="checkbox"/><br>Suspected Unapproved <input type="checkbox"/> | <b>AGAINST DEPARTMENT/PROCESS</b><br><br><table style="width: 100%;"> <tr> <td>Skid-tube <input type="checkbox"/></td> <td>Crosstube <input type="checkbox"/></td> <td>Water Jet <input type="checkbox"/></td> <td>Engineering <input type="checkbox"/></td> </tr> <tr> <td>Machining <input type="checkbox"/></td> <td>Small Fab <input type="checkbox"/></td> <td>Prod. Eng. Coord. <input type="checkbox"/></td> <td>Quality <input type="checkbox"/></td> </tr> <tr> <td>Thermoforming <input type="checkbox"/></td> <td>Finishing <input type="checkbox"/></td> <td>Rec/Store/Packaging <input type="checkbox"/></td> <td>Other <input type="checkbox"/></td> </tr> <tr> <td>Large Fab <input type="checkbox"/></td> <td>Composite <input type="checkbox"/></td> <td>Supplier <input type="checkbox"/></td> <td></td> </tr> </table> | Skid-tube <input type="checkbox"/>   | Crosstube <input type="checkbox"/> | Water Jet <input type="checkbox"/> | Engineering <input type="checkbox"/> | Machining <input type="checkbox"/> | Small Fab <input type="checkbox"/> | Prod. Eng. Coord. <input type="checkbox"/> | Quality <input type="checkbox"/> | Thermoforming <input type="checkbox"/> | Finishing <input type="checkbox"/> | Rec/Store/Packaging <input type="checkbox"/> | Other <input type="checkbox"/> | Large Fab <input type="checkbox"/> | Composite <input type="checkbox"/> | Supplier <input type="checkbox"/> |  |
| Skid-tube <input type="checkbox"/>                           | Crosstube <input type="checkbox"/>   | Water Jet <input type="checkbox"/>  | Engineering <input type="checkbox"/> |                                    |                                    |                                      |                                    |                                    |  |                                  |  |                                    |  |                                |                                    |                                    |                                   |  |
| Machining <input type="checkbox"/>                           | Small Fab <input type="checkbox"/>   | Prod. Eng. Coord. <input type="checkbox"/>  | Quality <input type="checkbox"/>     |                                    |                                    |                                      |                                    |                                    |  |                                  |  |                                    |  |                                |                                    |                                    |                                   |  |
| Thermoforming <input type="checkbox"/>                       | Finishing <input type="checkbox"/>   | Rec/Store/Packaging <input type="checkbox"/>  | Other <input type="checkbox"/>       |                                    |                                    |                                      |                                    |                                    |  |                                  |  |                                    |  |                                |                                    |                                    |                                   |  |
| Large Fab <input type="checkbox"/>                           | Composite <input type="checkbox"/>   | Supplier <input type="checkbox"/>   |                                      |                                    |                                    |                                      |                                    |                                    |  |                                  |  |                                    |  |                                |                                    |                                    |                                   |  |

| Root Cause    | Date | Step | Qty | Description of work order update or non-conformance | Initial Chief Eng | Action Description | Sign & Date | Verification | QC Inspector |
|---------------|------|------|-----|---|-------------------|--------------------|-------------|--------------|--------------|
| Design        |      |      |     |   |                   |                    |             |              |              |
| Doc/Data      |      |      |     |   |                   |                    |             |              |              |
| Equip/Tooling |      |      |     |   |                   |                    |             |              |              |
| Handling/Pre  |      |      |     |   |                   |                    |             |              |              |
| Material      |      |      |     |   |                   |                    |             |              |              |
| Operator      |      |      |     |   |                   |                    |             |              |              |
| Offset/Setup  |      |      |     |   |                   |                    |             |              |              |
| Process       |      |      |     |   |                   |                    |             |              |              |
| Supplier      |      |      |     |   |                   |                    |             |              |              |
| Training      |      |      |     |   |                   |                    |             |              |              |
| Transport     |      |      |     |   |                   |                    |             |              |              |
| Unapproved    |      |      |     |   |                   |                    |             |              |              |

### FAULT CATEGORY

|  |  |   |  |
|--|--|---|--|
| <b>Landing Gear</b><br><input type="checkbox"/> Bending<br><input type="checkbox"/> Centre Not Concentric<br><input type="checkbox"/> Cracks<br><input type="checkbox"/> Crimp/Kink/Ripple/Wave<br><input type="checkbox"/> Cuffs<br><input type="checkbox"/> Crushing<br><input type="checkbox"/> Heat Treat<br><input type="checkbox"/> Inspection Strip in Tube<br><input type="checkbox"/> Marks/Chatter<br><input type="checkbox"/> Turning Sequence<br><input type="checkbox"/> Wave/Twist in Tube | <b>General</b><br><input type="checkbox"/> Bend<br><input type="checkbox"/> BOM/Route<br><input type="checkbox"/> Broken/Damage/Defect<br><input type="checkbox"/> Burrs<br><input type="checkbox"/> Contamination<br><input type="checkbox"/> Countersink<br><input type="checkbox"/> Cut Too Short<br><input type="checkbox"/> Drawing<br><input type="checkbox"/> Drill Holes<br><input type="checkbox"/> Finish<br><input type="checkbox"/> Fit/Function | <input type="checkbox"/> Folio/Program<br><input type="checkbox"/> Grain<br><input type="checkbox"/> Hardware<br><input type="checkbox"/> Inspection Incomplete/Unqualified<br><input type="checkbox"/> Instructions Incomplete/Unclear<br><input type="checkbox"/> Misaligned/off center<br><input type="checkbox"/> Mislabeled<br><input type="checkbox"/> Misread<br><input type="checkbox"/> Off-set<br><input type="checkbox"/> Out of Calibration<br><input type="checkbox"/> Out of Sequence | <input type="checkbox"/> Outside Dimensions<br><input type="checkbox"/> Over/Under tolerance<br><input type="checkbox"/> Part Incorrect<br><input type="checkbox"/> Part Lost/Missing<br><input type="checkbox"/> Part Moved<br><input type="checkbox"/> Positioned Wrong<br><input type="checkbox"/> Power Loss/Surge<br><br><input type="checkbox"/> Pressure/Forced<br><input type="checkbox"/> Set-up<br><input type="checkbox"/> Temperature/Cure<br><input type="checkbox"/> Weld<br><input type="checkbox"/> Wrong Stock Pulled<br><br><input type="checkbox"/> Other |
|--|--|---|--|

**Work Order ID 110306**

December-17-13 9:20:34 AM

**\*110306\***

Page 2

Item ID: D212-722-013

Accept

**\*N900040100\***

Setup Start

**\*NS1\***

Revision ID:

Stop

**\*NS2\***

Item Name: Fastener Brace

Start Date: 12/17/13 Start Qty: 2.00

**\*2\***

Cust Item ID:

Required Date: 12/17/13 Req'd Qty: 2.00

**\*2\***

Customer:

Reference:

Approvals:

Process Plan: \_\_\_\_\_

Date: \_\_\_\_\_

Tooling: \_\_\_\_\_

Date: \_\_\_\_\_

Run Start

**\*NR1\***

QC: \_\_\_\_\_

Date: \_\_\_\_\_

SPC (Y/N): \_\_\_\_\_

Date: \_\_\_\_\_

Stop

**\*NR2\***Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

130

0.00

**\*130\***

Packaging

Memo

0.00

Packaging

Identify and pack for shipping as per PPP D212-722-013

Location: 020

PPP rev: \_\_\_\_\_

2 8 14-02-05

140

QC21- Final Inspection - Work Order Release

0.00

**\*140\***

QC

Memo

0.00

Quality Control

MLJ 14-02-05MF  
14-2-5

DQA: \_\_\_\_\_ Date: \_\_\_\_\_



## WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Work Order update only ☐

|  |  |  |                                      |                                    |                                    |                                      |                                    |                                    |  |                                  |  |                                    |  |                                |                                    |                                    |                                   |  |
|--|--|--|--------------------------------------|------------------------------------|------------------------------------|--------------------------------------|------------------------------------|------------------------------------|--|----------------------------------|--|------------------------------------|--|--------------------------------|------------------------------------|------------------------------------|-----------------------------------|--|
| Work Order: _____<br><br>Part No. _____<br><br>NCR No. _____ | <b>DISPOSITION</b><br><br>Rework <input type="checkbox"/><br>Scrap <input type="checkbox"/><br>Use-as-is <input type="checkbox"/><br>Suspected Unapproved <input type="checkbox"/> | <b>AGAINST DEPARTMENT/PROCESS</b><br><br><table style="width:100%;"> <tr> <td>Skid-tube <input type="checkbox"/></td> <td>Crosstube <input type="checkbox"/></td> <td>Water Jet <input type="checkbox"/></td> <td>Engineering <input type="checkbox"/></td> </tr> <tr> <td>Machining <input type="checkbox"/></td> <td>Small Fab <input type="checkbox"/></td> <td>Prod. Eng. Coord. <input type="checkbox"/></td> <td>Quality <input type="checkbox"/></td> </tr> <tr> <td>Thermoforming <input type="checkbox"/></td> <td>Finishing <input type="checkbox"/></td> <td>Rec/Store/Packaging <input type="checkbox"/></td> <td>Other <input type="checkbox"/></td> </tr> <tr> <td>Large Fab <input type="checkbox"/></td> <td>Composite <input type="checkbox"/></td> <td>Supplier <input type="checkbox"/></td> <td></td> </tr> </table> | Skid-tube <input type="checkbox"/>   | Crosstube <input type="checkbox"/> | Water Jet <input type="checkbox"/> | Engineering <input type="checkbox"/> | Machining <input type="checkbox"/> | Small Fab <input type="checkbox"/> | Prod. Eng. Coord. <input type="checkbox"/> | Quality <input type="checkbox"/> | Thermoforming <input type="checkbox"/> | Finishing <input type="checkbox"/> | Rec/Store/Packaging <input type="checkbox"/> | Other <input type="checkbox"/> | Large Fab <input type="checkbox"/> | Composite <input type="checkbox"/> | Supplier <input type="checkbox"/> |  |
| Skid-tube <input type="checkbox"/>                           | Crosstube <input type="checkbox"/>   | Water Jet <input type="checkbox"/>   | Engineering <input type="checkbox"/> |                                    |                                    |                                      |                                    |                                    |  |                                  |  |                                    |  |                                |                                    |                                    |                                   |  |
| Machining <input type="checkbox"/>                           | Small Fab <input type="checkbox"/>   | Prod. Eng. Coord. <input type="checkbox"/>   | Quality <input type="checkbox"/>     |                                    |                                    |                                      |                                    |                                    |  |                                  |  |                                    |  |                                |                                    |                                    |                                   |  |
| Thermoforming <input type="checkbox"/>                       | Finishing <input type="checkbox"/>   | Rec/Store/Packaging <input type="checkbox"/>   | Other <input type="checkbox"/>       |                                    |                                    |                                      |                                    |                                    |  |                                  |  |                                    |  |                                |                                    |                                    |                                   |  |
| Large Fab <input type="checkbox"/>                           | Composite <input type="checkbox"/>   | Supplier <input type="checkbox"/>  |                                      |                                    |                                    |                                      |                                    |                                    |  |                                  |  |                                    |  |                                |                                    |                                    |                                   |  |

| Root Cause    | Date | Step | Qty | Description of work order update or non-conformance | Initial Chief Eng | Action Description | Sign & Date | Verification | QC Inspector |
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| Doc/Data      |      |      |     |   |                   |                    |             |              |              |
| Equip/Tooling |      |      |     |   |                   |                    |             |              |              |
| Handling/Pre  |      |      |     |   |                   |                    |             |              |              |
| Material      |      |      |     |   |                   |                    |             |              |              |
| Operator      |      |      |     |   |                   |                    |             |              |              |
| Offset/Setup  |      |      |     |   |                   |                    |             |              |              |
| Process       |      |      |     |   |                   |                    |             |              |              |
| Supplier      |      |      |     |   |                   |                    |             |              |              |
| Training      |      |      |     |   |                   |                    |             |              |              |
| Transport     |      |      |     |   |                   |                    |             |              |              |
| Unapproved    |      |      |     |   |                   |                    |             |              |              |

### FAULT CATEGORY

|  |  |   |
|--|--|---|
| <b>Landing Gear</b><br><input type="checkbox"/> Bending<br><input type="checkbox"/> Centre Not Concentric<br><input type="checkbox"/> Cracks<br><input type="checkbox"/> Crimp/Kink/Ripple/Wave<br><input type="checkbox"/> Cuffs<br><input type="checkbox"/> Crushing<br><input type="checkbox"/> Heat Treat<br><input type="checkbox"/> Inspection Strip in Tube<br><input type="checkbox"/> Marks/Chatter<br><input type="checkbox"/> Turning Sequence<br><input type="checkbox"/> Wave/Twist in Tube | <b>General</b><br><input type="checkbox"/> Bend<br><input type="checkbox"/> BOM/Route<br><input type="checkbox"/> Broken/Damage/Defect<br><input type="checkbox"/> Burrs<br><input type="checkbox"/> Contamination<br><input type="checkbox"/> Countersink<br><input type="checkbox"/> Cut Too Short<br><input type="checkbox"/> Drawing<br><input type="checkbox"/> Drill Holes<br><input type="checkbox"/> Finish<br><input type="checkbox"/> Fit/Function | <input type="checkbox"/> Folio/Program<br><input type="checkbox"/> Grain<br><input type="checkbox"/> Hardware<br><input type="checkbox"/> Inspection Incomplete/Unqualified<br><input type="checkbox"/> Instructions Incomplete/Unclear<br><input type="checkbox"/> Misaligned/off center<br><input type="checkbox"/> Mislabeled<br><input type="checkbox"/> Misread<br><input type="checkbox"/> Off-set<br><input type="checkbox"/> Out of Calibration<br><input type="checkbox"/> Out of Sequence |
|  |  | <input type="checkbox"/> Outside Dimensions<br><input type="checkbox"/> Over/Under tolerance<br><input type="checkbox"/> Part Incorrect<br><input type="checkbox"/> Part Lost/Missing<br><input type="checkbox"/> Part Moved<br><input type="checkbox"/> Positioned Wrong<br><input type="checkbox"/> Power Loss/Surge  |
|  |  | <input type="checkbox"/> Pressure/Forced<br><input type="checkbox"/> Set-up<br><input type="checkbox"/> Temperature/Cure<br><input type="checkbox"/> Weld<br><input type="checkbox"/> Wrong Stock Pulled<br><input type="checkbox"/> Other  |

# Picklist Print

December-17-13 9:20:34 AM

Page 1

Work Order ID: 110306  
 Parent Item: D212-722-013  
 Parent Item Name: Fastener Brace

Start Date: 12/17/13  
 Start Qty: 2.00

Required Date: 12/17/13  
 Required Qty: 2.00

Comments: IPP revA 11.06.21 new issue EC verified by:DD

| Component Item ID/<br>Item Name | Replacement<br>Item ID | Mfg/<br>Purch | Bin<br>Item | Primary<br>Location | Last<br>Location | Route<br>Seq ID | Unit of<br>Measure | Qty on<br>Hand  | Qty per Kit | Total<br>Qty | Qty<br>Issued | Date<br>Issued    | Status  |
|---------------------------------|------------------------|---------------|-------------|---------------------|------------------|-----------------|--------------------|-----------------|-------------|--------------|---------------|-------------------|---------|
| D3986-1<br>Angle                |                        | Manufactured  | No          |                     |                  | 110             | Each               | 9.0000          | 1           | 2            |               | DAS<br>28<br>9-03 | 14-02-5 |
|                                 |                        |               |             | <u>Location</u>     |                  | <u>Loc Qty</u>  |                    | <u>Loc Code</u> |             |              |               |                   |         |
|                                 |                        |               |             | ST081               |                  | 9               |                    |                 |             |              |               |                   |         |
|                                 |                        |               |             | 84644               |                  | 9               |                    |                 |             |              |               |                   |         |
| D3986-3<br>Brace                |                        | Manufactured  | No          |                     |                  | 110             | Each               | 4.0000          | 2           | 4            |               | DAS<br>28<br>9-03 |         |
|                                 |                        |               |             | <u>Location</u>     |                  | <u>Loc Qty</u>  |                    | <u>Loc Code</u> |             |              |               |                   |         |
|                                 |                        |               |             | ST081               |                  | 4               |                    |                 |             |              |               |                   |         |
|                                 |                        |               |             | 71094               |                  | 4               |                    |                 |             |              |               |                   |         |

DQA: \_\_\_\_\_ Date: \_\_\_\_\_



## WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Work Order update only ☐

|  |  |  |                                      |                                    |                                    |                                      |                                    |                                    |  |                                  |  |                                    |  |                                |                                    |                                    |                                   |  |
|--|--|--|--------------------------------------|------------------------------------|------------------------------------|--------------------------------------|------------------------------------|------------------------------------|--|----------------------------------|--|------------------------------------|--|--------------------------------|------------------------------------|------------------------------------|-----------------------------------|--|
| Work Order: _____<br><br>Part No. _____<br><br>NCR No. _____ | <b>DISPOSITION</b><br><br>Rework <input type="checkbox"/><br>Scrap <input type="checkbox"/><br>Use-as-is <input type="checkbox"/><br>Suspected Unapproved <input type="checkbox"/> | <b>AGAINST DEPARTMENT/PROCESS</b><br><br><table style="width:100%;"> <tr> <td>Skid-tube <input type="checkbox"/></td> <td>Crosstube <input type="checkbox"/></td> <td>Water Jet <input type="checkbox"/></td> <td>Engineering <input type="checkbox"/></td> </tr> <tr> <td>Machining <input type="checkbox"/></td> <td>Small Fab <input type="checkbox"/></td> <td>Prod. Eng. Coord. <input type="checkbox"/></td> <td>Quality <input type="checkbox"/></td> </tr> <tr> <td>Thermoforming <input type="checkbox"/></td> <td>Finishing <input type="checkbox"/></td> <td>Rec/Store/Packaging <input type="checkbox"/></td> <td>Other <input type="checkbox"/></td> </tr> <tr> <td>Large Fab <input type="checkbox"/></td> <td>Composite <input type="checkbox"/></td> <td>Supplier <input type="checkbox"/></td> <td></td> </tr> </table> | Skid-tube <input type="checkbox"/>   | Crosstube <input type="checkbox"/> | Water Jet <input type="checkbox"/> | Engineering <input type="checkbox"/> | Machining <input type="checkbox"/> | Small Fab <input type="checkbox"/> | Prod. Eng. Coord. <input type="checkbox"/> | Quality <input type="checkbox"/> | Thermoforming <input type="checkbox"/> | Finishing <input type="checkbox"/> | Rec/Store/Packaging <input type="checkbox"/> | Other <input type="checkbox"/> | Large Fab <input type="checkbox"/> | Composite <input type="checkbox"/> | Supplier <input type="checkbox"/> |  |
| Skid-tube <input type="checkbox"/>                           | Crosstube <input type="checkbox"/>   | Water Jet <input type="checkbox"/>   | Engineering <input type="checkbox"/> |                                    |                                    |                                      |                                    |                                    |  |                                  |  |                                    |  |                                |                                    |                                    |                                   |  |
| Machining <input type="checkbox"/>                           | Small Fab <input type="checkbox"/>   | Prod. Eng. Coord. <input type="checkbox"/>   | Quality <input type="checkbox"/>     |                                    |                                    |                                      |                                    |                                    |  |                                  |  |                                    |  |                                |                                    |                                    |                                   |  |
| Thermoforming <input type="checkbox"/>                       | Finishing <input type="checkbox"/>   | Rec/Store/Packaging <input type="checkbox"/>   | Other <input type="checkbox"/>       |                                    |                                    |                                      |                                    |                                    |  |                                  |  |                                    |  |                                |                                    |                                    |                                   |  |
| Large Fab <input type="checkbox"/>                           | Composite <input type="checkbox"/>   | Supplier <input type="checkbox"/>  |                                      |                                    |                                    |                                      |                                    |                                    |  |                                  |  |                                    |  |                                |                                    |                                    |                                   |  |

| Root Cause    | Date | Step | Qty | Description of work order update or non-conformance | Initial Chief Eng | Action Description | Sign & Date | Verification | QC Inspector |
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| Doc/Data      |      |      |     |   |                   |                    |             |              |              |
| Equip/Tooling |      |      |     |   |                   |                    |             |              |              |
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| Material      |      |      |     |   |                   |                    |             |              |              |
| Operator      |      |      |     |   |                   |                    |             |              |              |
| Offset/Setup  |      |      |     |   |                   |                    |             |              |              |
| Process       |      |      |     |   |                   |                    |             |              |              |
| Supplier      |      |      |     |   |                   |                    |             |              |              |
| Training      |      |      |     |   |                   |                    |             |              |              |
| Transport     |      |      |     |   |                   |                    |             |              |              |
| Unapproved    |      |      |     |   |                   |                    |             |              |              |

### FAULT CATEGORY

|  |  |   |  |
|--|--|---|--|
| <b>Landing Gear</b><br><input type="checkbox"/> Bending<br><input type="checkbox"/> Centre Not Concentric<br><input type="checkbox"/> Cracks<br><input type="checkbox"/> Crimp/Kink/Ripple/Wave<br><input type="checkbox"/> Cuffs<br><input type="checkbox"/> Crushing<br><input type="checkbox"/> Heat Treat<br><input type="checkbox"/> Inspection Strip in Tube<br><input type="checkbox"/> Marks/Chatter<br><input type="checkbox"/> Turning Sequence<br><input type="checkbox"/> Wave/Twist in Tube | <b>General</b><br><input type="checkbox"/> Bend<br><input type="checkbox"/> BOM/Route<br><input type="checkbox"/> Broken/Damage/Defect<br><input type="checkbox"/> Burrs<br><input type="checkbox"/> Contamination<br><input type="checkbox"/> Countersink<br><input type="checkbox"/> Cut Too Short<br><input type="checkbox"/> Drawing<br><input type="checkbox"/> Drill Holes<br><input type="checkbox"/> Finish<br><input type="checkbox"/> Fit/Function | <input type="checkbox"/> Folio/Program<br><input type="checkbox"/> Grain<br><input type="checkbox"/> Hardware<br><input type="checkbox"/> Inspection Incomplete/Unqualified<br><input type="checkbox"/> Instructions Incomplete/Unclear<br><input type="checkbox"/> Misaligned/off center<br><input type="checkbox"/> Mislabeled<br><input type="checkbox"/> Misread<br><input type="checkbox"/> Off-set<br><input type="checkbox"/> Out of Calibration<br><input type="checkbox"/> Out of Sequence | <input type="checkbox"/> Outside Dimensions<br><input type="checkbox"/> Over/Under tolerance<br><input type="checkbox"/> Part Incorrect<br><input type="checkbox"/> Part Lost/Missing<br><input type="checkbox"/> Part Moved<br><input type="checkbox"/> Positioned Wrong<br><input type="checkbox"/> Power Loss/Surge<br><br><input type="checkbox"/> Pressure/Forced<br><input type="checkbox"/> Set-up<br><input type="checkbox"/> Temperature/Cure<br><input type="checkbox"/> Weld<br><input type="checkbox"/> Wrong Stock Pulled<br><input type="checkbox"/> Other |
|--|--|---|--|

# DART SERVICE INSTRUCTION

## TO AMEND INSTALLATION INSTRUCTIONS IIN-D212-722 REV. A

REF. TCCA STC: SH05-11  
REF. FAA STC: SR02091NY  
REF. EASA.IM.R.S.01181

110306 MCT  
13-12-18

The purpose of the Service Instruction is to provide instructions for the installation of the D212-722-013 Dzus Rail Brace Kit which has been developed to provide a fastening method for the center dzus rail when the D212-722-011 Avionics Riser Console is installed. The D212-722-013 kit has been added to all D212-722-011 kits at CHG 003 or later.

If the aircraft pedestal has been removed from the aircraft follow the instructions in Option 1. If the pedestal has not been removed from the aircraft follow instructions in Option 2 (Sheet 2).

The maximum weight of equipment installed in front of the D212-722-011 Avionics Riser Console using the D212-722-013 Kit is 40 lbs.

**Option 1** - Install D212-722-013 Dzus Rail Brace Kit as follows if pedestal has been removed from aircraft:

Note: The existing PR35 center dzus rails will need to be removed and re-worked to the correct length in order to install the D212-722-013 Dzus Rail Brace Kit.

**CAUTION: Alignment of the parts is critical to a successful installation. It is strongly recommended that the parts be clamped together before drilling and then clecoed together before riveting.**

- 1) Remove the rivets securing the existing center PR35 dzus rails.
- 2) Remove the existing center dzus rail braces.
- 3) Clamp the D3986-1 angle, D3986-3 braces and PR35 dzus rail together as shown in Figure 1 (Sheet 3). The D3986-3 braces should be approximately centered between the existing dzus rails.
- 4) Install blanking plates (Figure 5, Sheet 7) to position the PR35 dzus rails in the correct position.
- 5) Transfer drill 9x  $\varnothing 0.129$  (#30 drill) holes from PR35 dzus rail thru D3986-3 braces. See Figure 2, (Sheet 4), Note 1.
- 6) Deburr holes and reassemble using clecos.
- 7) Transfer drill 4x  $\varnothing 0.129$  (#30 drill) holes from D3986-3 braces to D3986-1 angle. See Figure 2, (Sheet 4), Note 2.
- 8) Deburr holes and reassemble using clecos.
- 9) Transfer drill 4x  $\varnothing 0.129$  (#30 drill) holes from aircraft pedestal to D3986-3 braces. See Figure 2, (Sheet 4), Note 3.
- 10) Deburr holes, dimple D3986-3 brace and aircraft pedestal and reassemble using clecos.
- 11) Transfer drill 4x  $\varnothing 0.129$  (#30 drill) holes from D3986-1 angle to aircraft pedestal. See Figure 2, (Sheet 4), Note 4.
- 12) Deburr holes, dimple D3986-1 angle and aircraft pedestal and reassemble using clecos.
- 13) Re-install blanking plates (Figure 5, Sheet 7) and verify correct position of PR35 dzus rails.
- 14) Install MS20470AD4 and MS20426AD4 rivets as shown in Figure 2 (Sheet 4) in the same order as the holes were drilled, maintaining the PR35 dzus rail position.

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BRANCH  
DAO # 01-0-01

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BY: *D. Shepherd*  
D. SHEPHERD (DE # 02)

DATE: 11.06.01  
CERT. NO.: SH05-11  
ISSUE NO.: 1

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|---|-------------|------------------------|----------|
| A   | NEW ISSUE   |                        | 11.06.01 |
| REV.  | DESCRIPTION | BY                     | DATE     |
| DESIGN  |             |                        |          |
| DRAWN   |             |                        |          |
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| MFG. APPR.  | N/A         |                        |          |
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| DE APPR.  |             |                        |          |
| DATE  | 11.06.01    |                        |          |
| DART AEROSPACE LTD<br>HAWKESBURY, ONTARIO, CANADA   |             | REV. A<br>SHEET 1 OF 7 |          |
| DRAWING NO.<br>DSI 9476   |             | SCALE<br>NTS           |          |
| TITLE<br>DZUS RAIL BRACE KIT  |             |                        |          |
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**Option 2** - Install D212-722-013 Dzus Rail Brace Kit as follows if pedestal has not been removed from aircraft:

Note: The existing PR35 center dzus rails will need to be removed and re-worked to a correct length in order to install the D212-722-013 Dzus Rail Brace Kit.

**CAUTION: Alignment of the parts is critical to a successful installation. It is strongly recommended that the parts be clamped together before drilling and then clecoed together before riveting.**

- 1) Remove the rivets securing the PR35 center dzus rails from the existing dzus rail brace. Remove dzus rail.
- 2) Without removing it, trim the existing left dzus rail brace, as shown in Figure 4 (Sheet 6). Trim the existing right dzus rail brace 2.25" longer. See Note 1 Figure 4 (Sheet 6).
- 3) Trim D3986-3 braces so that when matched with the existing dzus rail braces the original D3986-3 length is maintained.
- 4) Clamp and cleco the D3986-1 angle, the trimmed D3986-3 braces and PR35 dzus rail together as shown in Figure 3 (Sheet 5).
- 5) Install blanking plates (Figure 5, Sheet 7) to position the PR35 dzus rails in the correct position.
- 6) Transfer drill  $\varnothing 0.129$  (#30 drill) the necessary holes (4 typ) from PR35 dzus rail thru D3986-3 braces. See Figure 3, (Sheet 5), Note 1.
- 7) Deburr holes and reassemble using clecos.
- 8) Transfer drill 4x  $\varnothing 0.129$  (#30 drill) holes from D3986-3 braces to D3986-1 angle. See Figure 3, (Sheet 5), Note 2.
- 9) Deburr holes and reassemble using clecos.
- 10) Transfer drill 4x  $\varnothing 0.129$  (#30 drill) holes from D3986-1 angle to aircraft console. See Figure 3, (Sheet 5), Note 3.
- 11) Deburr holes, dimple D3986-1 angle and aircraft console and reassemble using clecos.
- 12) Re-install blanking plates (Figure 5, Sheet 7) and verify correct position of PR35 dzus rails
- 13) Install MS20470AD4 and MS20426AD4 rivets as shown in Figure 3 (Sheet 5) in the same order as the holes were drilled, maintaining the PR35 dzus rail position.

## WEIGHT AND BALANCE

Compliance with this DSI has no effect on the aircraft weight and balance.






## PARTS LIST

| QTY.<br>-013 | PART NUMBER  | DESCRIPTION         |
|--------------|--------------|---------------------|
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| 1            | D3986-1      | ANGLE               |
| 2            | D3986-3      | BRACE               |

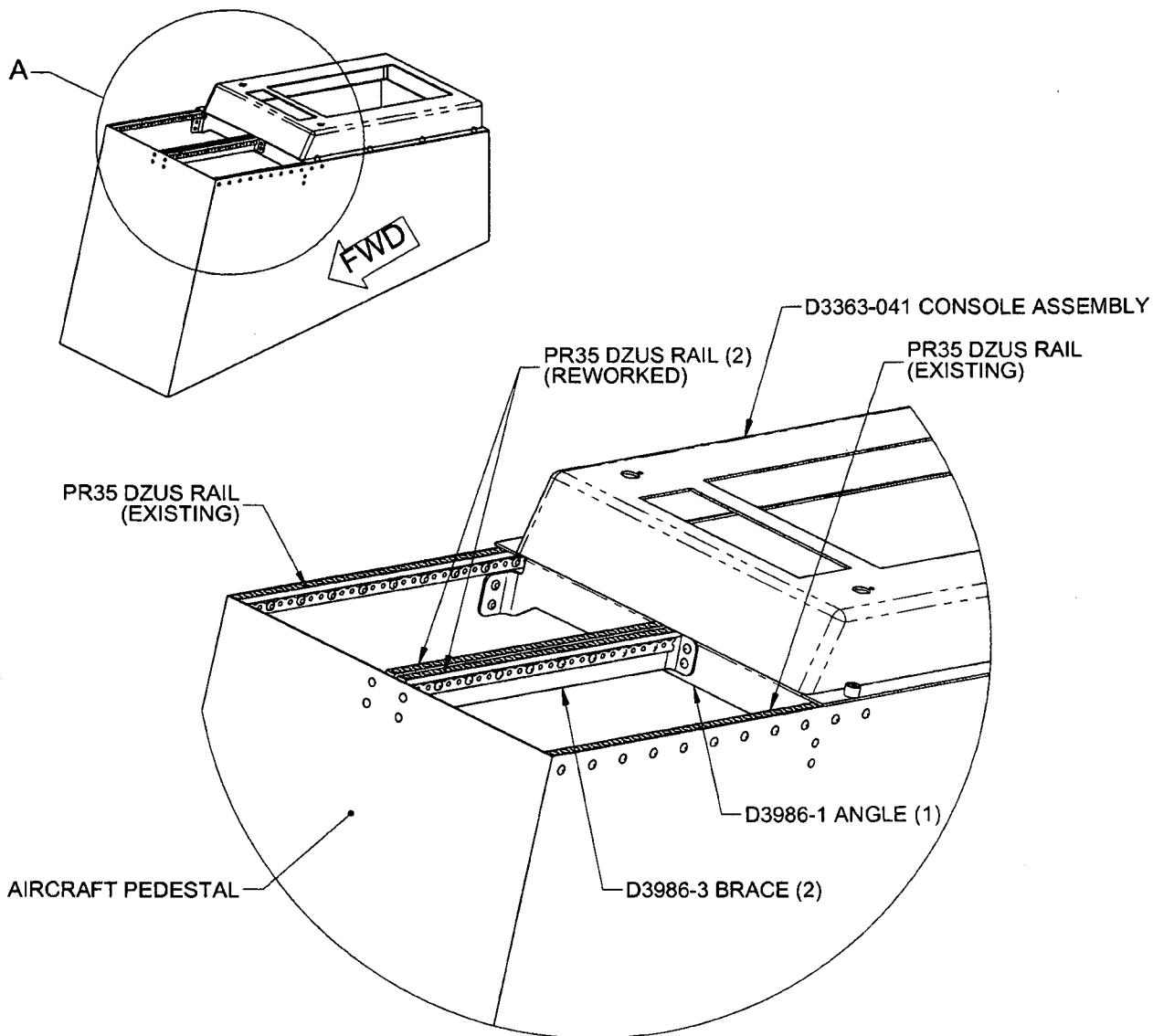
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**DETAIL A**

**FIGURE 1: D212-722-013 DZUS RAIL BRACE INSTALLATION**

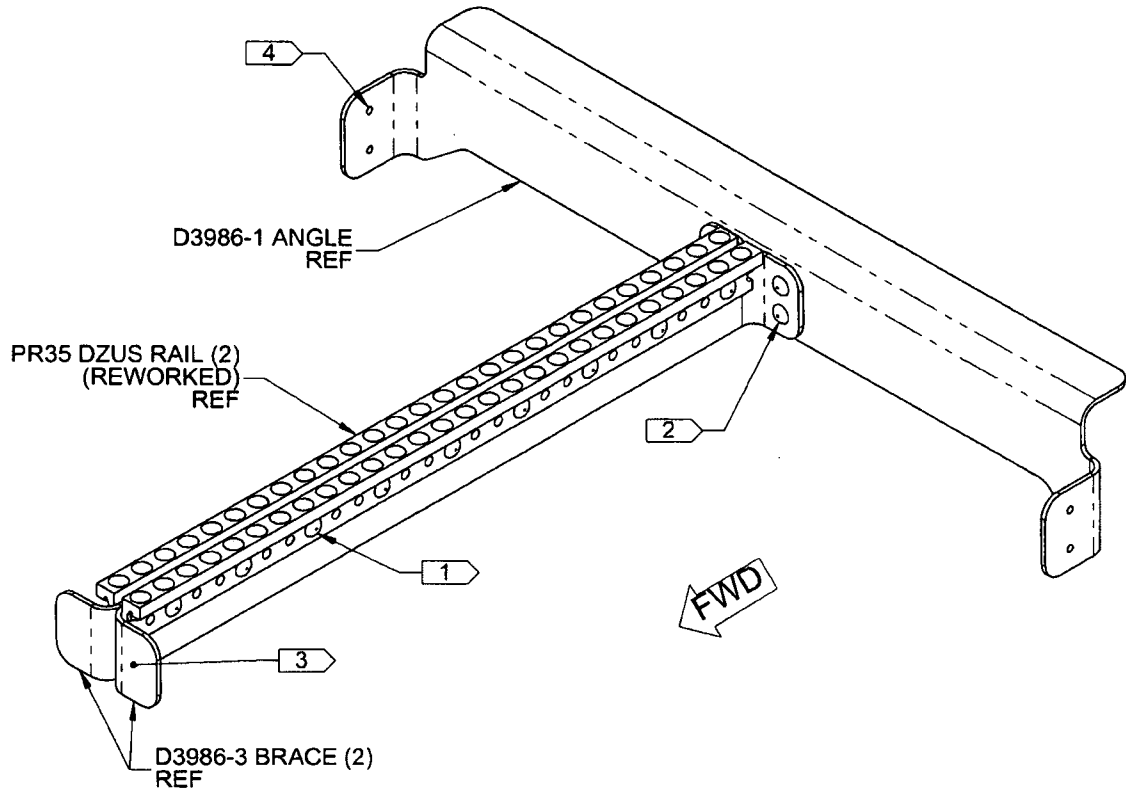
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- 1) CONFIRM THAT DZUS RAIL AND BRACE ARE IN CORRECT POSITION AND TRANSFER DRILL  $\phi 0.129$  (#30 DRILL) FROM PR35 DZUS RAIL THRU D3986-3 BRACES. INSTALL MS20470AD4 RIVETS, 9 PL TYP
- 2) CONFIRM THAT DZUS RAIL AND BRACE ARE IN CORRECT POSITION AND TRANSFER DRILL 4X  $\phi 0.129$  (#30 DRILL) HOLES FROM D3986-3 BRACE TO D3986-1 ANGLE. INSTALL MS20470AD4 RIVETS, 4 PL
- 3) CONFIRM THAT DZUS RAIL AND BRACE ARE IN CORRECT POSITION AND TRANSFER DRILL 4X  $\phi 0.129$  (#30 DRILL) FROM AIRCRAFT CONSOLE TO D3986-3 BRACES. DIMPLE D3986-3 BRACES AND INSTALL MS20426AD4 RIVETS, 4 PL.
- 4) CONFIRM THAT DZUS RAIL AND BRACE ARE IN CORRECT POSITION AND TRANSFER DRILL 4X  $\phi 0.129$  (#30 DRILL) FROM D3986-1 ANGLE TO AIRCRAFT CONSOLE. DIMPLE D3986-1 ANGLE AND AIRCRAFT CONSOLE AND INSTALL MS20426AD4 RIVETS, 4 PL

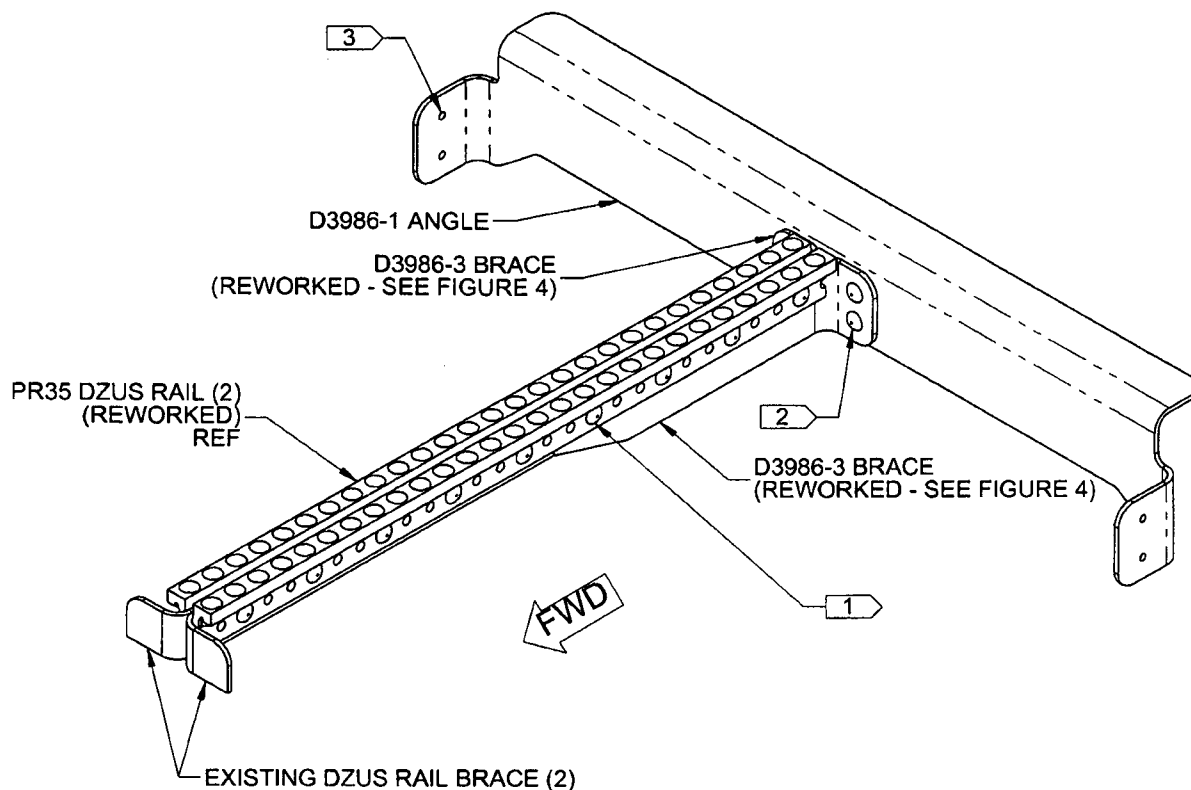
**FIGURE 2: D212-722-013 DZUS RAIL BRACE INSTALLATION - OPTION 1**  
(PEDESTAL REMOVED FROM AIRCRAFT)

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- 1) CONFIRM THAT DZUS RAIL AND BRACE ARE IN CORRECT POSITION AND TRANSFER DRILL (4 PL TYP)  $\varnothing 0.129$  (#30 DRILL) FROM PR35 DZUS RAIL THRU D3986-3 BRACES. INSTALL MS20470AD4 RIVETS, 9 PL TYP
- 2) CONFIRM THAT DZUS RAIL AND BRACE ARE IN CORRECT POSITION AND TRANSFER DRILL 4X  $\varnothing 0.129$  (#30 DRILL) HOLES FROM D3986-3 BRACE TO D3986-1 ANGLE. INSTALL MS20470AD4 RIVETS, 4 PL
- 3) CONFIRM THAT DZUS RAIL AND BRACE ARE IN CORRECT POSITION AND TRANSFER DRILL 4X  $\varnothing 0.129$  (#30 DRILL) FROM D3986-1 ANGLE TO AIRCRAFT CONSOLE. DIMPLE D3986-1 ANGLE AND AIRCRAFT CONSOLE AND INSTALL MS20426AD4 RIVETS, 4 PL

**FIGURE 3: D212-722-013 DZUS RAIL BRACE INSTALLATION - OPTION 2**  
(PEDESTAL NOT REMOVED FROM AIRCRAFT)

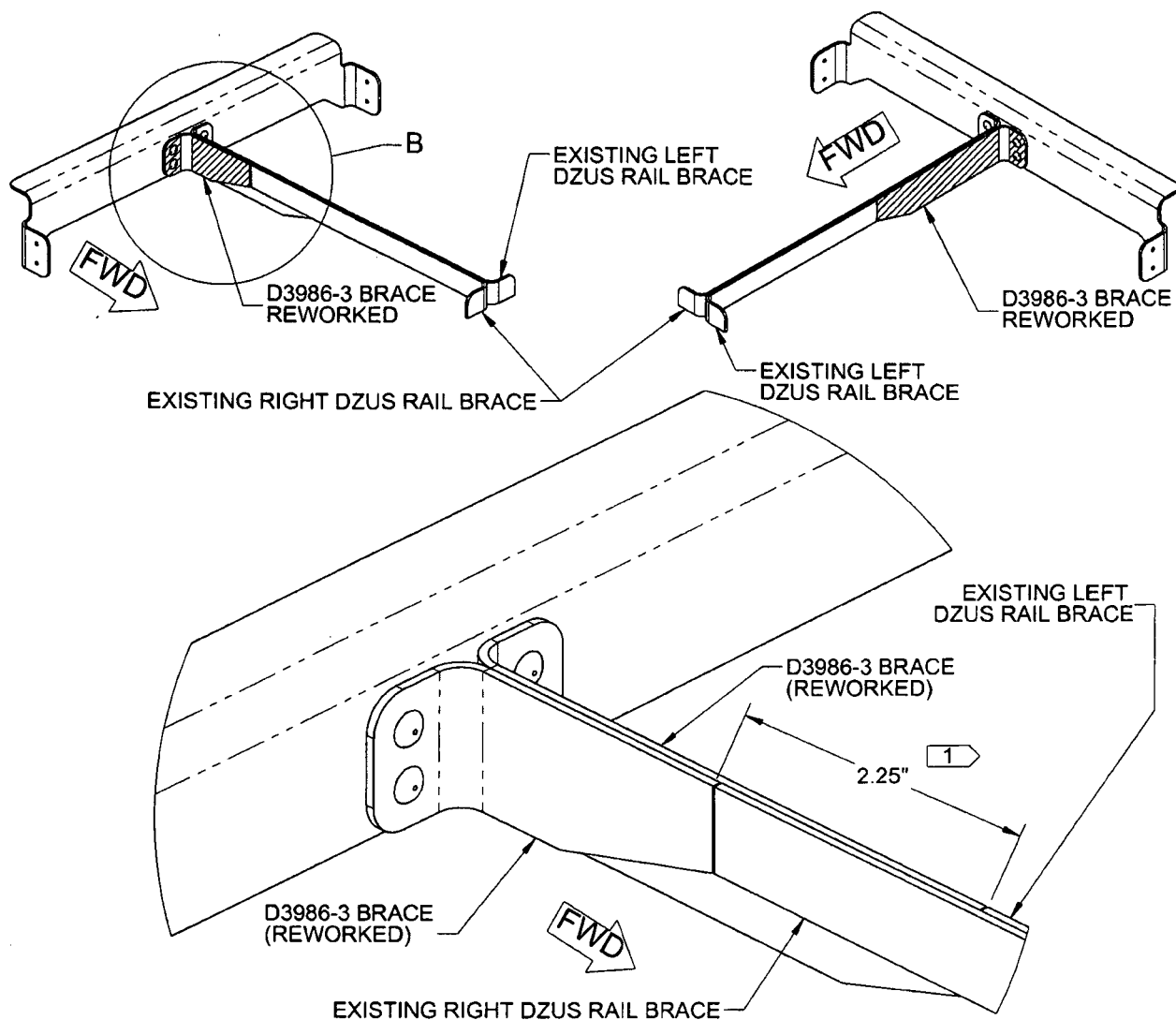
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### DETAIL B

- 1) TRIM EXISTING LEFT DZUS RAIL BRACE SO THAT THE END IS HALF WAY BETWEEN EXISTING RIVET HOLES. TRIM EXISTING RIGHT DZUS RAIL BRACE 2.25" LONGER






**FIGURE 4: EXISTING DZUS RAIL BRACE TRIMMING DETAIL - OPTION 2**  
(REWORKED DZUS RAILS AND RIVETS NOT SHOWN FOR CLARITY)

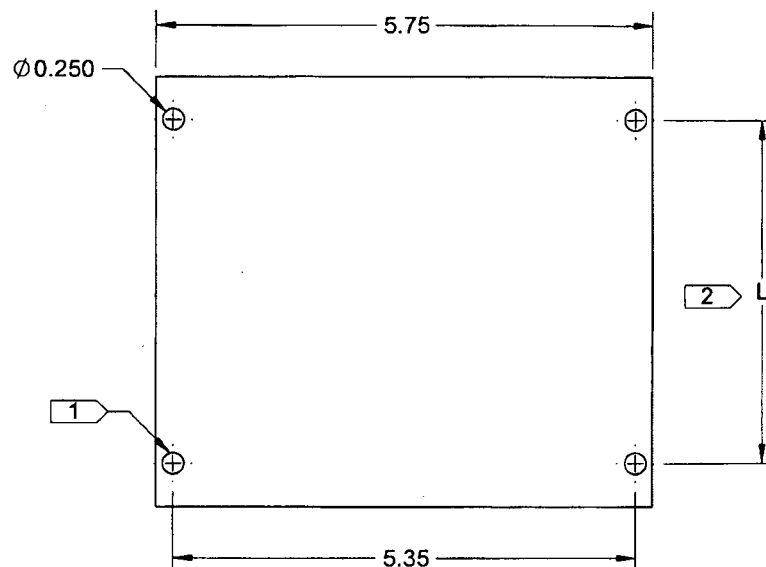
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- 1) INSTALL DZUS FASTENERS, 4 PL TYP
- 2) DIMENSION "L" IS MIN 4". MUST BE DIVISIBLE BY 0.375

**FIGURE 5: BLANKING PLATE**

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**Option 2** - Install D212-722-013 Dzus Rail Brace Kit as follows if pedestal has not been removed from aircraft:

Note: The existing PR35 center dzus rails will need to be removed and re-worked to a correct length in order to install the D212-722-013 Dzus Rail Brace Kit.

**CAUTION:** Alignment of the parts is critical to a successful installation. It is strongly recommended that the parts be clamped together before drilling and then clecoed together before riveting.

- 1) Remove the rivets securing the PR35 center dzus rails from the existing dzus rail brace. Remove dzus rail.
- 2) Without removing it, trim the existing left dzus rail brace, as shown in Figure 4 (Sheet 6). Trim the existing right dzus rail brace 2.25" longer. See Note 1 Figure 4 (Sheet 6).
- 3) Trim D3986-3 braces so that when matched with the existing dzus rail braces the original D3986-3 length is maintained.
- 4) Clamp and cleco the D3986-1 angle, the trimmed D3986-3 braces and PR35 dzus rail together as shown in Figure 3 (Sheet 5).
- 5) Install blanking plates (Figure 5, Sheet 7) to position the PR35 dzus rails in the correct position.
- 6) Transfer drill  $\varnothing 0.129$  (#30 drill) the necessary holes (4 typ) from PR35 dzus rail thru D3986-3 braces. See Figure 3, (Sheet 5), Note 1.
- 7) Deburr holes and reassemble using clecos.
- 8) Transfer drill 4x  $\varnothing 0.129$  (#30 drill) holes from D3986-3 braces to D3986-1 angle. See Figure 3, (Sheet 5), Note 2.
- 9) Deburr holes and reassemble using clecos.
- 10) Transfer drill 4x  $\varnothing 0.129$  (#30 drill) holes from D3986-1 angle to aircraft console. See Figure 3, (Sheet 5), Note 3.
- 11) Deburr holes, dimple D3986-1 angle and aircraft console and reassemble using clecos.
- 12) Re-install blanking plates (Figure 5, Sheet 7) and verify correct position of PR35 dzus rails
- 13) Install MS20470AD4 and MS20426AD4 rivets as shown in Figure 3 (Sheet 5) in the same order as the holes were drilled, maintaining the PR35 dzus rail position.

## WEIGHT AND BALANCE

Compliance with this DSI has no effect on the aircraft weight and balance.

## PARTS LIST






| QTY.<br>-013 | PART NUMBER  | DESCRIPTION         |
|--------------|--------------|---------------------|
| X            | D212-722-013 | DZUS RAIL BRACE KIT |
| 1            | D3986-1      | ANGLE               |
| 2            | D3986-3      | BRACE               |

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